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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,250	02/13/2001	Takashi Fuchisawa	Q62939	8086
7590 11/22/2005 SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			EXAMINER MOORE, IAN N	
			ART UNIT 2661	PAPER NUMBER

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,250

Applicant(s)

FUCHISAWA, TAKASHI

Examiner

Ian N. Moore

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures (1, 2A-B, 3A-C) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**a different information channel signal transmitted from an other base stations serving as a handover destination after handover is performed**" (claim 2, lines 3-4) must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Strat (AU 199869926B2, patent No. AU 735582).

Regarding Claims 1, 7 and 9, Strat discloses a mobile phone system (see page 1, line 9-10; see page 3, line 14; digital cellular radio communication system) comprising:

a plurality of base stations (see page 1, line 14-16, 26-28; see page 3, line 16-20; a number of base stations),

wherein each of the plurality of base station includes circuitry to transmit (see page 1, line 14-16, 26-28; see page 3, line 16-20; each base station contains transmission circuitry) a unidirectional logical control channel signal (see FIG. 2, physical channel which carries broadcast control logic channels which carries useful information to handover; see page 5, line

21-23; see page 6, line 2-19) in a designed transmission time slot (see FIG. 2, first slot IT0, a transmit time slot sent to mobile phone by each base station) of a frame (see FIG. 2, frame 3), the designed transmission time slot being the same for each of the plurality of base station (see page 6, line 1-18; see page 2, line 10-16; a first transmit time slot IT0 is the same for each BS; see page 5, line 20 to page 6, line 1; more than one BS from each cell transmit frames for handover),

at least one mobile phone (see page 3, line 16-23; mobile station) includes circuitry to receive (see page 3, line 16-23, mobile station must have circuitry to receive) the unidirectional logical control channel signal in a designed reception time slot of the frame (see FIG. 2, first slot IT0, a receive time slot of the receiving mobile station side since the same time slot sent by each base station is received at the mobile station), corresponding to the designated transmission time slot of each of the plurality of base station (see page 6, line 2-19; see page 3, line 16-20; note that receive time slot IT0 in frame 3 corresponds to each transmit time slot of each base station), the designed reception time slot being the same for each frame of a plurality of frames (see FIG. 3-4; see page 2, line 16-25; see page 7, line 15-16; 22-24; multiframes are sent/received during handover) of said at least one mobile phone (see page 6, line 1-18; see page 2, line 10-16; a first received time slot IT0 is the same for each frame of multiframes of mobile station);

wherein when receiving the unidirectional logical control channel in the designated reception time slot of the frame (see FIG. 2, first slot IT0, a receive time slot of the receiving mobile station side since the same time slot sent by each base station is received at the mobile station), said at least one mobile phone receives an information channel signal (see FIG. 2, physical channel which carries information not useful for implementing a handover; see page 5, line 21-29; see page 6, line 2-22) in an other reception time slot (see FIG. 2, IT2 reception time

slot 3) of the frame (see FIG. 2, frame 3), the information channel signal being transmitted from one of said plurality of base station (see page 6, line 1-25; see page 3, line 30 to page 4, line 7; a base station transmits time slot IT2 to mobile station).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strat in view of Park (US006609003B1).

Regarding Claim 2, Strat discloses wherein said one of said plurality of base stations servers as a handover source (see page 3, line 23-25; see page 5, line 31 to page 6, line 1; base station in a current cell) and said at least one mobile phone receives different information channel signal transmitted (page 6, line 2-19; see page 3, line 16-20; receiving different information such as general data about network, current cell, and/or adjacent cell) from an other base station of said plurality of base station serving as a handover destination (see page 4, line 20-22; target base station).

Strat does not explicitly disclose receiving after a handover is performed. However, Park teaches one mobile phone receives a different information channel signal transmitted (see col. 14, line 24-25, sync channel) from another base station of said plurality of base station serving as a handover destination (see FIG. 9B, BS#B) after handover is performed (see col. 14, line 24-27;

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sending SYNC channel after handover). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to synchronize after handover, as taught by Park in the system of Strat, so that it would optimize handoff operation while minimizing cost and operational complexity, and synchronize between MS and newly connected BS; see Park col. 3, line 1-5, see col. 14, line 9-15.

7. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strat in view of Yahata (US 6,480,483).

Regarding claim 3, Strat discloses wherein the logical control channel signal is successively transmitted from each of said plurality of base stations as described above in claim 1.

Strat does not explicitly disclose transmitted at a fixed period timing. However, Yahata discloses transmitted at a fixed period timing (see FIG. 8, TDMA frame timing) from each of said plurality of base stations (see FIG. 4, Master Station CS1, CS2... and slave base station CS100, CS200; see col. 15, lines 6-30; note that master base station CS1 utilizes the GPS to time each slave base station so that the signal the transmitted by each base station is synchronized).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit at fixed period timing, as taught by Yahata in the system of Strat, so that it would synchronize between base stations, which reduce the synchronization failures (i.e. improper handover) due to clock drift between base stations, which result in clock drift between base station and mobile station; see Yahata col. 5, lines 49-65; see col. 11, line 1-26.

Regarding claims 4 and 5, Strat discloses wherein the logical control channel signal is successively transmitted from each of said plurality of base stations as described above in claim 1.

Strat does not explicitly disclose transmitted at a fixed period timing. However, Yahata discloses wherein each of said plural base stations is synchronized in transmission timing among said plurality of base stations (see FIG. 7, steps a-p; note that master base station C1 is synchronized with GPS reference timing, and the master station C1 sends a control signal to slave base stations CS103, 104,107 for synchronization. The slave base stations synchronize with the master base station; see col. 14, lines 25 to col. 17, lines 54).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit at fixed period timing, as taught by Yahata in the system of Strat, so that it would synchronize between base stations, which reduce the synchronization failures (i.e. improper handover) due to clock drift between base stations, which result in clock drift between base station and mobile station; see Yahata col. 5, lines 49-65; see col. 11, line 1-26.

8. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strat in view of Park, as described above in claim 1, and further in view of Hammer (U.S. 4,872,204).

Regarding claim 6, Strat discloses wherein said at least one mobile phone detects a reception level of each of logical control channel signal received, and said one base station serving as said handover source performing a handover (see page 2, line 16-25; see page 7, line 15-16; 22-24). Park discloses wherein said at least one mobile phone (see FIG. 9B, MS) detects a

reception level of each of logical control channel signal received (see col. 13, line 35-40), and said one base station serving as said handover source compares the reception level of each logical control channel signal detected with the reception level of said information channel signal which is transmitted/received to/from (see FIG. 9B, see col. 13, lines 30 to col. 14, line 5; up receiving the signal measurement from MS, source/currently serving BS compares the measured and threshold channel signal levels).

Neither Strat nor Park explicitly disclose wherein said mobile phone compares the reception level of the signal with the reception level of the signal, which is transmitted/received to/from said one base station.

However, Hammer teaches wherein said at least one mobile phone (see FIG. 2, Mobile Station 13) detects a reception level (see FIG. 2, Signal Strength I of curve G) of each logical control channel signal received (see col. 6, lines 44-55; mobile station 13 searches the alternative base station to be assigned as the signal strength I of curve G of reception of said control information transmission channel), and compares the reception level of the logical control channel signal detected (see FIG. 2, Signal Strength I of curve F, from BS 10) with the reception level of an information channel signal (see FIG. 2, Signal Strength I of curve F, from BS 11) which is transmitted/received to/from said one of said plurality of base stations serving as said handover source (see FIG. 2, see col. 7, line 25-47; note that mobile station compares the signal strength I of curve G of the alternative base station 11 with the signal strength curve F of currently communicating base station 10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the mobile station comparing the signal strength, as taught by

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Yahata in the combined system of Strat and Park, so that it would improve the quality of transmission and reception of the individual remote mobile station, and can increase the transmission signal quality of the mobile unit since the mobile unit is signal strength is maintained; see Hammer col. 2, lines 1-10.

Regarding claim 8, the combine system of Strat, Park and Hammer discloses all aspects of the claimed invention set forth in the rejection of Claim 1, 6 and 8 as described above.

Hammer further discloses wherein said at least one mobile phone chooses said logical control channel signal having the highest reception level when the reception level of each of said logical control channel signal detected is higher than the reception of said information channel signal (see col. 5, lines 45 to col. 6, lines 14; see col. 35-65; see col. 7, lines 5-46). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Strat and Park, as taught by Hammer for the motivation as stated above in claim 6.

Response to Arguments

9. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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